Unit - 4 Software Evaluation and Costing

Software Evaluation:

Software evaluation is important for businesses and organizations that want to buy software that meets their needs and gives them a good return on their investment.

It entails evaluating and measuring the quality and effectiveness of software applications in order to determine whether they meet the requirements and specifications, perform the intended functions, and meet the needs of end users.

Software evaluation determines a software application or system's quality, usability, and effectiveness.

It is an important step in the software development process because it determines whether the software meets the required standards and specifications and is fit for its intended purpose.

Why is software evaluation important?

Software evaluation is an important step in the software development process because it determines whether the software meets the required standards and specifications and whether it is suitable for its intended purpose. Let's find out some key importance of it:

Quality Assurance

It is important for quality assurance. By evaluating software, potential problems can be found and fixed early in the development process. This can help to reduce the number of defects, bugs, and errors in the software. This can save time and money in the long run and improve the software's overall quality.

User Satisfaction

Software evaluation is critical for user satisfaction. It is possible to determine whether the software meets the needs of its intended users by evaluating it from the user's perspective. This can help to increase user satisfaction and decrease user frustration with the software.

Cost-Effectiveness

It is essential for determining cost-effectiveness. Software evaluation allows for identifying and resolving potential problems before they arise. This can save time and money by reducing the need for costly rework or redesign in the future.

Continuous Improvement

Evaluating software can provide useful feedback for future software releases. This can help ensure that the software remains up to date, meets the changing needs of users, and remains competitive in the market.

"How much does it cost to develop a software application?" is one of the first questions a client asks the development team. But there is no immediate answer. You may need to build a one-feature product or an entire company's internal system—and in both cases, the time and cost to implement your idea might be the same.

Project Evaluation:

Project evaluation is the process of measuring the success of a project, program or portfolio. This is done by gathering data about the project and using an evaluation method that allows evaluators to find performance improvement opportunities. Project evaluation is also critical to keep stakeholders updated on the project status and any changes that might be required to the budget or schedule.

Every aspect of the project, such as ***costs, scope, risks or return on investment (ROI)*** is measured to determine if it's proceeding as planned. If there are road bumps, this data can inform how projects can improve. Basically, you're asking the project a series of questions designed to discover what is working, what can be improved and whether the project is useful. Tools such as project dashboards and trackers help in the evaluation process by making key data readily available.

Criteria of Project Evaluation:

1. Strategic Assessment
2. Technical Assessment
3. Cost-benefit analysis
4. Cashflow forecasting

1. Strategic Assessment

Strategic assessment is the first criteria for project evaluation. For evaluating and managing the projects, the individual projects should be seen as components of a programme. Hence need to do programme management.

Programme management

It is being increasingly recognized that individual projects need to be seen as components of a programme and should be evaluated and managed as such. A programme, in this context, is a collection of projects that all contribute to the same overall organizational goals. Effective programme management requires that there is a well-defined programme goal and that all the organization's projects are selected and adjusted to contribute to this goal. A project must be evaluated according to how it contributes to this programme goal and its viability, timing, resourcing, and final worth can be affected by the programme. It is to be expected that the value of any project is increased by the fact that it is part of a programme - the whole, as they say, being greater than the sum of the parts.

Evaluating of project is depends on:

- ☞ How it contributes to the programme goal.
- ☞ It is viability [capability of developing or useful].

- ☞ Timing.
- ☞ Resourcing.

For successful strategic assessment, there should be a strategic plan which defines:

- ☞ Organization's objectives.
- ☞ Provides context for defining programme.
- ☞ Provides context for defining programme goals.
- ☞ Provide context for accessing individual projects.

In large organization, programme management is taken care by programme director and programme executive, rather than, project manager, who will be responsible for the strategic assessment of project. Any potential software system will form part of the user organization's overall information system and must be evaluated within the context of existing information system and the organization's information strategy. If a well – defined information system does not exist, then the system development and the assessment of project proposals will be based on a more "**piece meal approach**". Piece meal approach is one in which each project being individually early in its life cycle.

Portfolio management

Project Portfolio management provides an overview of all the projects that an organization is undertaking or is considering. It prioritizes the allocation of resources to projects and decides which projects should be accepted and which existing ones should be dropped.

The concerns of Project Portfolio management include:

- ☞ Identifying which project proposals are worth implementation.
- ☞ Assessing the amount of risk of failure that a potential project has.
- ☞ Deciding how to share limited resources, including staff time and finance, between projects.
- ☞ Being aware of the dependencies between projects.
- ☞ Ensuring that projects do not duplicate benefits.
- ☞ Ensuring that necessary developments have accidentally been missed.

The three key aspects of Project Portfolio management are:

1. Portfolio definition
2. Portfolio management
3. Portfolio optimization

Technical Assessment

Technical assessment is the second criteria for evaluating the project.Technical assessment of a proposed system evaluates functionality against available:

- ☞ Hardware
- ☞ Software

Limitations

– Nature of solutions produced by strategic information systems plan

– Cost of solution. Hence undergoes cost-benefit analysis.

It is also referred as Technology Evaluation. The Technology Assessment is a write up on the technical aspects of the project sector and planned technical purchases. Technology is defined broadly here to include: equipment, tools, products, processes, raw materials, skills, and ways of organizing production.

Assessing Technology Planning:

- ☞ Analyze Technology Needs
- ☞ Planning for Change and Technology
- ☞ Assessing a Technology Plan Before and After Implementation

Why it is important:

- ☞ It's a tool to Identify the Problem
  - ➢ At the core of any project is a series of big and small problems that need to be addressed (ex: not enough production capacity, staff lacks required skills, overly expensive transportation, etc.)
  - ➢ Reviewing the production process including the systems and equipment in place provides transparency into what some of the constraints are. Some will be obvious, but others may be hidden until you take a closer look.
  - ➢ Not all constraints will be technical, so this is just one investigative tool needed.
- ☞ It's a tool to Identify the Best Solution
  - ➢ Once you know what the technical problems are, you can start to look for solutions.
  - ➢ The Technology Assessment provides the opportunity to explore potential solutions (ex: new equipment choices, new crop varieties, new fertilizers, changes in process, etc.)
  - ➢ The grantee often has a solution in mind when they propose the project, but further analysis can lead to more creative, better fitting, and more cost

effective solutions. Srividya College of Engineering & Technogy Lecturer Notes

- The grant budget is limited, so looking at the options in a systematic way helps the grantee understand the tradeoffs with implementing one technical solution or another. Knowing this, they can make more informed decisions about using scarce budget resources.

☞ It's a tool for Communication.

- The write-up documents the background work and thinking on technical issues that has gone into the project design and budget.
- It serves as a record and resource for the grantee in case they need to go back and reconsider the options later.

Purpose:

☞ Technology assessment provides an organization with information about the profitability of current technology as well as the benefits of implementing new technology.

☞ Ineffective technology needs to be upgraded or replaced for businesses to produce quality products or services.

Types of Assessments:

Technology assessment can happen on several levels: flexibility, longevity and upgrade and scale-assessments. To assure that an organization can remain competitive, every aspect of its technology system must be in excellent operating condition. Assessment on all four levels improves the chances of this happening.

1. **Flexibility/Longevity**

   Flexibility assessment examines how technology will adapt to new levels of applications and other technology systems. Longevity assessment provides information on how long the technology will last.

2. **Upgrade/Scale Assessments**

   An upgrade assessment determines the ability of the technology to function with the addition of new, advanced features and equipment. Scale assessment considers how well the technology can operate in a larger, ever-growing network of systems. The growth of an organization means developing a Srividya College of Engineering & Technology Lecturer Notes larger technology system. New technology must be able to be incorporated into new, expanding networks.

Evaluate the technology options on the following factors:

- Fixed capital costs
- Source of equipment
- Operation, maintenance, and replacement costs
- Scale of production and expected capacity use rate
- Reliability
- Labor intensiveness (labor costs, productivity, and employment generation)
- Types and amounts of inputs required
- Raw material availability, sustainability, and cost
- Effects on product quality, cost and marketability
- Foreign exchange requirements and availability
- Natural resource requirements and sustainability
- Compatibility with existing technology in use
- Human resource requirement (training and technical assistance costs, management and supervision costs, etc)